FIG. 1

```
  1  CTTTCAGTCAGCATGATAGAAACATACAGCCAACCTTCCCCAGATCCGTGGCAACTGGACTTCCAGCG   69
  1                    MetIleGluThrTyrSerGlnProSerProArgSerValAlaThrGlyLeuProAla   19

 70  AGCATGAAGATTTTTATGTATTTACTTACTGTTTTCCTTATCACCCAAATGATTGGATCTGTGCTTTTT  138
 20  SerMetLysIlePheMetTyrLeuLeuThrValPheLeuIleThrGlnMetIleGlySerValLeuPhe   42

139  GCTGTGTATCTTCATAGAAGATTGGATAAGGTCGAAGAGGAAGTAAACCTTCATGAAGATTTTGTATTC  207
 43  AlaValTyrLeuHisArgArgLeuAspLysValGluGluGluValAsnLeuHisGluAspPheValPhe   65

208  ATAAAAAAGCTAAAGAGATGCAACAAAGGAGAAGGATCTTTATCCTTGCTGAACTGTGAGGAGATGAGA  276
 66  IleLysLysLeuLysArgCysAsnLysGlyGluGlySerLeuSerLeuLeuAsnCysGluGluMetArg   88

277  AGGCAATTTGAAGACCTTGTCAAGGATATAACGTTAAACAAAGAAGAGAAAAAAGAAAACAGCTTTGAA  345
 89  ArgGlnPheGluAspLeuValLysAspIleThrLeuAsnLysGluGluLysLysGluAsnSerPheGlu  111

346  ATGCAAAGAGGTGATGAGGATCCTCAAATTGCAGCACACGTTGTAAGCGAAGCCAACAGTAATGCAGCA  414
112  MetGlnArgGlyAspGluAspProGlnIleAlaAlaHisValValSerGluAlaAsnSerAsnAlaAla  134

415  TCCGTTCTACAGTGGGCCAAGAAAGGATATTATACCATGAAAAGCAACTTGGTAATGCTTGAAAATGGG  483
135  SerValLeuGlnTrpAlaLysLysGlyTyrTyrThrMetLysSerAsnLeuValMetLeuGluAsnGly  157

484  AAACAGCTGACGGTTAAAAGAGAAGGACTCTATTATGTCTACACTCAAGTCACCTTCTGCTCTAATCGG  552
158  LysGlnLeuThrValLysArgGluGlyLeuTyrTyrValTyrThrGlnValThrPheCysSerAsnArg  180

553  GAGCCTTCGAGTCAACGCCCATTCATCGTCGGCCTCTGGCTGAAGCCCAGCAGTGGATCTGAGAGAATC  621
181  GluProSerSerGlnArgProPheIleValGlyLeuTrpLeuLysProSerSerGlySerGluArgIle  203

622  TTACTCAAGGCGGCAAATACCCACAGTTCCTCCCAGCTTTGCGAGCAGCAGTCTGTTCACTTGGGCGGA  690
204  LeuLeuLysAlaAlaAsnThrHisSerSerSerGlnLeuCysGluGlnGlnSerValHisLeuGlyGly  226
```

FIG. 1, continued

```
691   GTGTTTGAATTACAAGCTGGTGCTTCTGTGTTTGTCAACGTGACTGAAGCAAGCCAAGTGATCCACAGA    759
227   ValPheGluLeuGlnAlaGlyAlaSerValPheValAsnValThrGluAlaSerGlnValIleHisArg    249

760   GTTGGCTTCTCATCTTTTGGCTTACTCAAACTCTGAACAGTGCGCTGCCCTAGGCTGCAGCAGGGCTGA    828
250   ValGlyPheSerSerPheGlyLeuLeuLysLeu                                        260

829   TGCTGGCAGTCTCCCCTATACACCAAGTCAGTTAGGCCCTCCCCTGTGTTGAACTGCCTATTTATAACC    897

898   CTAGGATCCTCCTCATGGAGAACTATTTATTATGTACCCCCAAGGCACATAGAGCTGGAATAAGAGAAT    966

967   TACAGGGCAGGCAAAAATCCCAAGGGACCCTGCTCCCTAAGAACTTACAATCTGAAACAGCAACCCCAC    1035

1036  TGATTCAGACAACCAGAAAAGACAAAGCCATAATACACAGATGACAGAGCTCTGATGAAACAACAGATA    1104

1105  ACTAATGAGCACAGTTTTGTTGTTTTATGGGTGTGTCGTTCAATGGACAGTGTACTTGACTTACCAGGG    1173

1174  AAGATGCAGAAGGGCAACTGTGAGCCTCAGCTCACAATCTGTTATGGTTGACCTGGGCTCCCTGCGGCC    1242

1243  CTAGTAGG                                                                 1250
```

FIG. 2

```
  1  TGCCACCTTCTCTGCCAGAAGATACCATTTCAACTTTAACACAGCATGATCGAAACATACAACCAAACT   69
  1                                                   MetIleGluThrTyrAsnGlnThr    8

 70  TCTCCCCGATCTGCGGCCACTGGACTGCCCATCAGCATGAAAATTTTTATGTATTTACTTACTGTTTTT  138
  9  SerProArgSerAlaAlaThrGlyLeuProIleSerMetLysIlePheMetTyrLeuLeuThrValPhe   31

139  CTTATCACCCAGATGATTGGGTCAGCACTTTTTGCTGTGTATCTTCATAGAAGGTTGGACAAGATAGAA  207
 32  LeuIleThrGlnMetIleGlySerAlaLeuPheAlaValTyrLeuHisArgArgLeuAspLysIleGlu   54

208  GATGAAAGGAATCTTCATGAAGATTTTGTATTCATGAAAACGATACAGAGATGCAACACAGGAGAAAGA  276
 55  AspGluArgAsnLeuHisGluAspPheValPheMetLysThrIleGlnArgCysAsnThrGlyGluArg   77

277  TCCTTATCCTTACTGAACTGTGAGGAGATTAAAAGCCAGTTTGAAGGCTTTGTGAAGGATATAATGTTA  345
 78  SerLeuSerLeuLeuAsnCysGluGluIleLysSerGlnPheGluGlyPheValLysAspIleMetLeu  100

346  AACAAAGAGGAGACGAAGAAAGAAAACAGCTTTGAAATGCAAAAAGGTGATCAGAATCCTCAAATTGCG  414
101  AsnLysGluGluThrLysLysGluAsnSerPheGluMetGlnLysGlyAspGlnAsnProGlnIleAla  123

415  GCACATGTCATAAGTGAGGCCAGCAGTAAAACAACATCTGTGTTACAGTGGGCTGAAAAAGGATACTAC  483
124  AlaHisValIleSerGluAlaSerSerLysThrThrSerValLeuGlnTrpAlaGluLysGlyTyrTyr  146

484  ACCATGAGCAACAACTTGGTAACCCTGGAAAATGGGAAACAGCTGACCGTTAAAAGACAAGGACTCTAT  552
147  ThrMetSerAsnAsnLeuValThrLeuGluAsnGlyLysGlnLeuThrValLysArgGlnGlyLeuTyr  169

553  TATATCTATGCCCAAGTCACCTTCTGTTCCAATCGGGAAGCTTCGAGTCAAGCTCCATTTATAGCCAGC  621
170  TyrIleTyrAlaGlnValThrPheCysSerAsnArgGluAlaSerSerGlnAlaProPheIleAlaSer  192

622  CTCTGCCTAAAGTCCCCCGGTAGATTCGAGAGAATCTTACTCAGAGCTGCAAATACCCACAGTTCCGCC  690
193  LeuCysLeuLysSerProGlyArgPheGluArgIleLeuLeuArgAlaAlaAsnThrHisSerSerAla  215
```

FIG. 2, continued

```
691  AAACCTTGCGGGCAACAATCCATTCACTTGGGAGGAGTATTTGAATTGCAACCAGGTGCTTCGGTGTTT  759
216  LysProCysGlyGlnGlnSerIleHisLeuGlyGlyValPheGluLeuGlnProGlyAlaSerValPhe  238

760  GTCAATGTGACTGATCCAAGCCAAGTGAGCCATGGCACTGGCTTCACGTCCTTTGGCTTACTCAAACTC  828
239  ValAsnValThrAspProSerGlnValSerHisGlyThrGlyPheThrSerPheGlyLeuLeuLysLeu  261

829  TGAACAGTGTCACCTTGCAGGCTGTGGTGGAGCTGACGCTGGGAGTCTTCATAATACAGCACAGCGGTT  897

898  AAGCCCACCCCCTGTTAACTGCCTATTTATAACCCTAGGATCCTCCTTATGGAGAACTATTTAT  961
```

FIG. 3

```
  1  MIETYNQTSPRSAATGLPISMKIFMYLLTVFLITQMIGSALFAVYLHRRL  50
     |||||.|.||||.||||| ||||||||||||||||||||.||||||||||
  5  MIETYSQPSPRSVATGLPASMKIFMYLLTVFLITQMIGSVLFAVYLHRRL  54

 51  DKIEDERNLHEDFVFMKTIQRCNTGERSLSLLNCEEIKSQFEGFVKDIML  100
     ||:|:| ||||||||:|.:.|||.|| |||||||||::.|||::|||| |
 55  DKVEEEVNLHEDFVFIKKLKRCNKGEGSLSLLNCEEMRRQFEDLVKDITL  104

101  NKEETKKENSFEMQKGDQNPQIAAHVISEASSKTTSVLQWAEKGYYTMSN  150
     |||| |||||||||:||::|||||||:|||.|...||||||.|||||||..
105  NKEE..KKENSFEMQRGDEDPQIAAHVVSEANSNAASVLQWAKKGYYTMKS  153

151  NLVTLENGKQLTVKRQGLYYIYAQVTFCSNREASSQAPFIASLCLKSPGR  200
     ||| ||||||||||||:||||:|.||||||||||:||| |||.:| ||..
154  NLVMLENGKQLTVKREGLYYVYTQVTFCSNREPSSQRPFIVGLWLKPSSG  203

201  FERILLRAANTHSSAKPCGQQSIHLGGVFELQPGASVFVNVTDPSQVSHG  250
      |||||:|||||||.. |:|||:|||||||||:|||||||||::|||  |
204  SERILLKAANTHSSSQLCEQQSVHLGGVFELQAGASVFVNVTEASQVIHR  253

251  TGFTSFGLLKL  261
     .||.|||||||
254  VGFSSFGLLKL  264
```

FIG. 4A

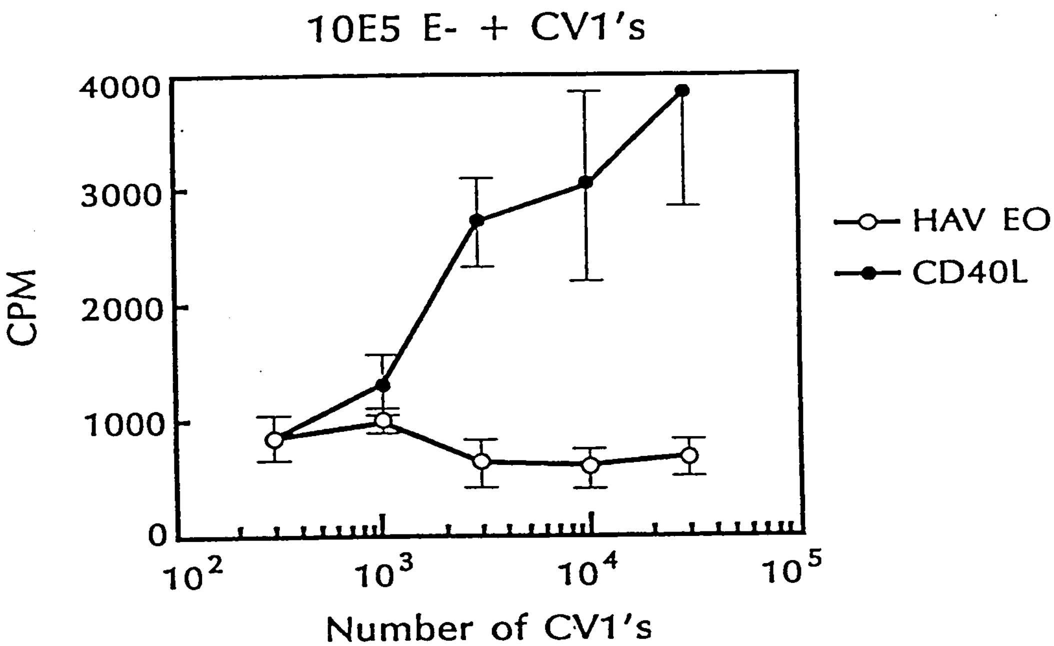

10E5 E- + CV1's
CPM
4000
3000
2000
1000
0
10^2
10^3
10^4
10^5
Number of CV1's
HAV EO
CD40L

FIG. 4B

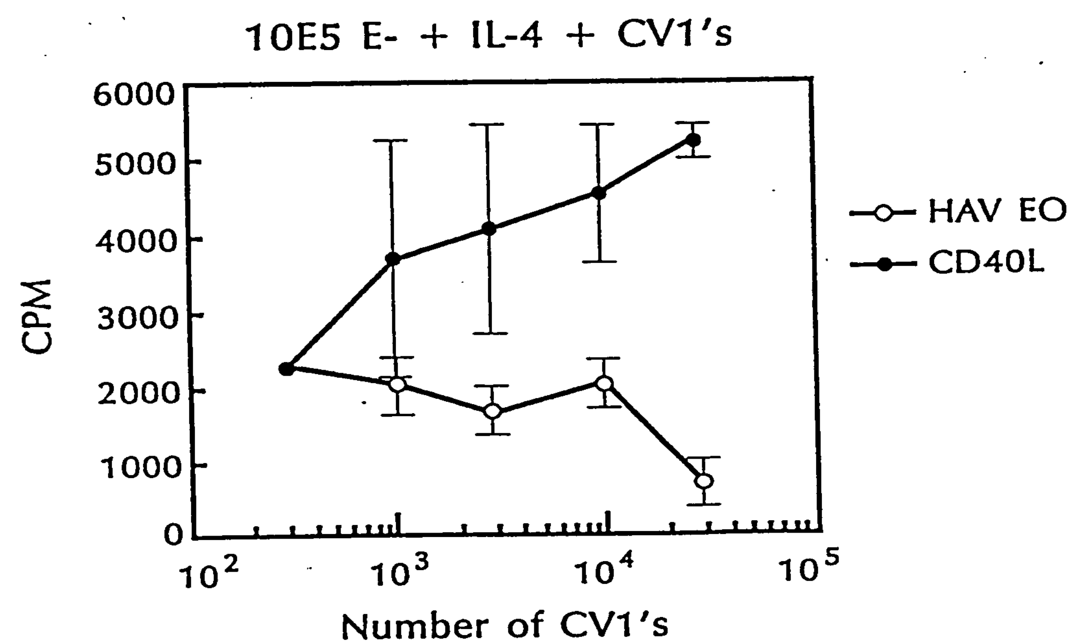

10E5 E- + IL-4 + CV1's
CPM
6000
5000
4000
3000
2000
1000
0
10^2
10^3
10^4
10^5
Number of CV1's
HAV EO
CD40L

FIG. 5

PB E + IL-4 + CV1 d7 Proliferation

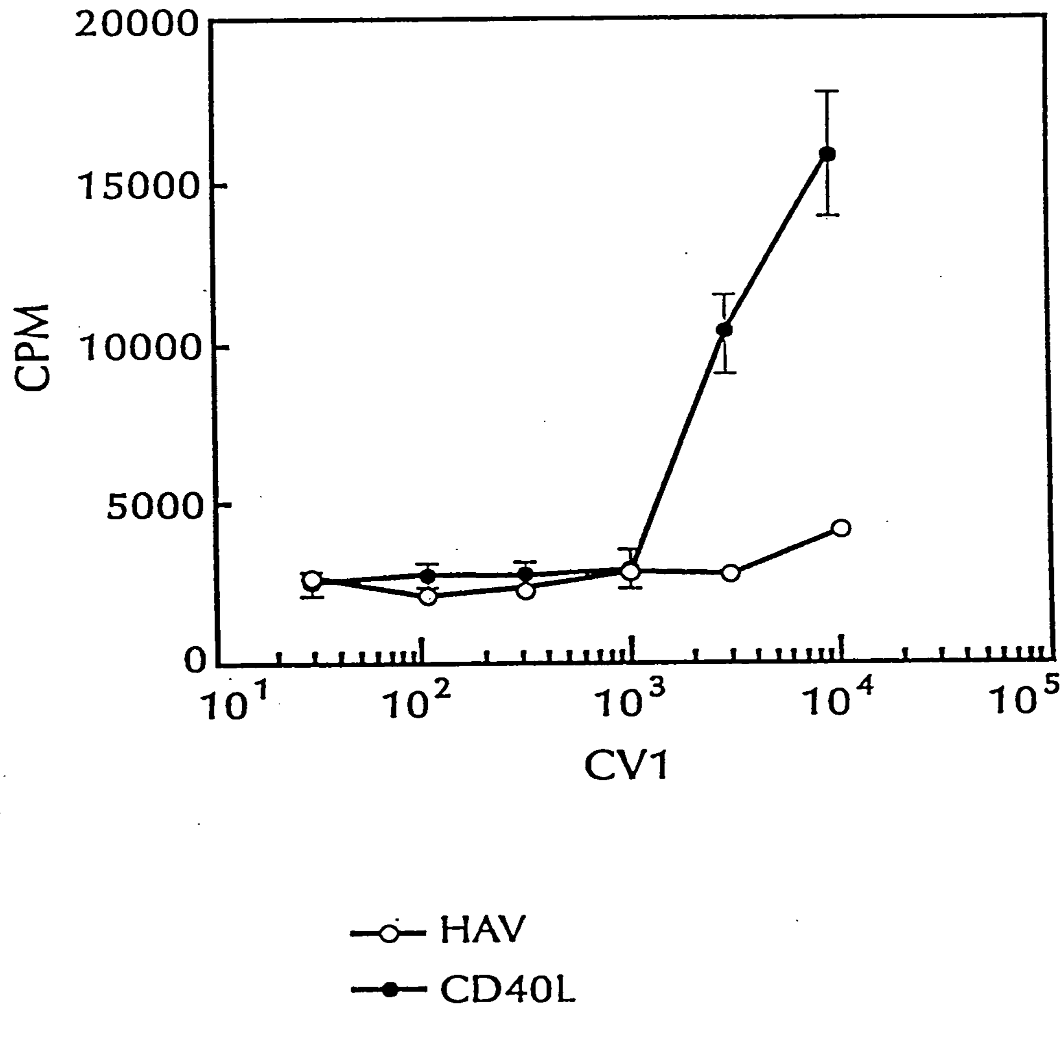
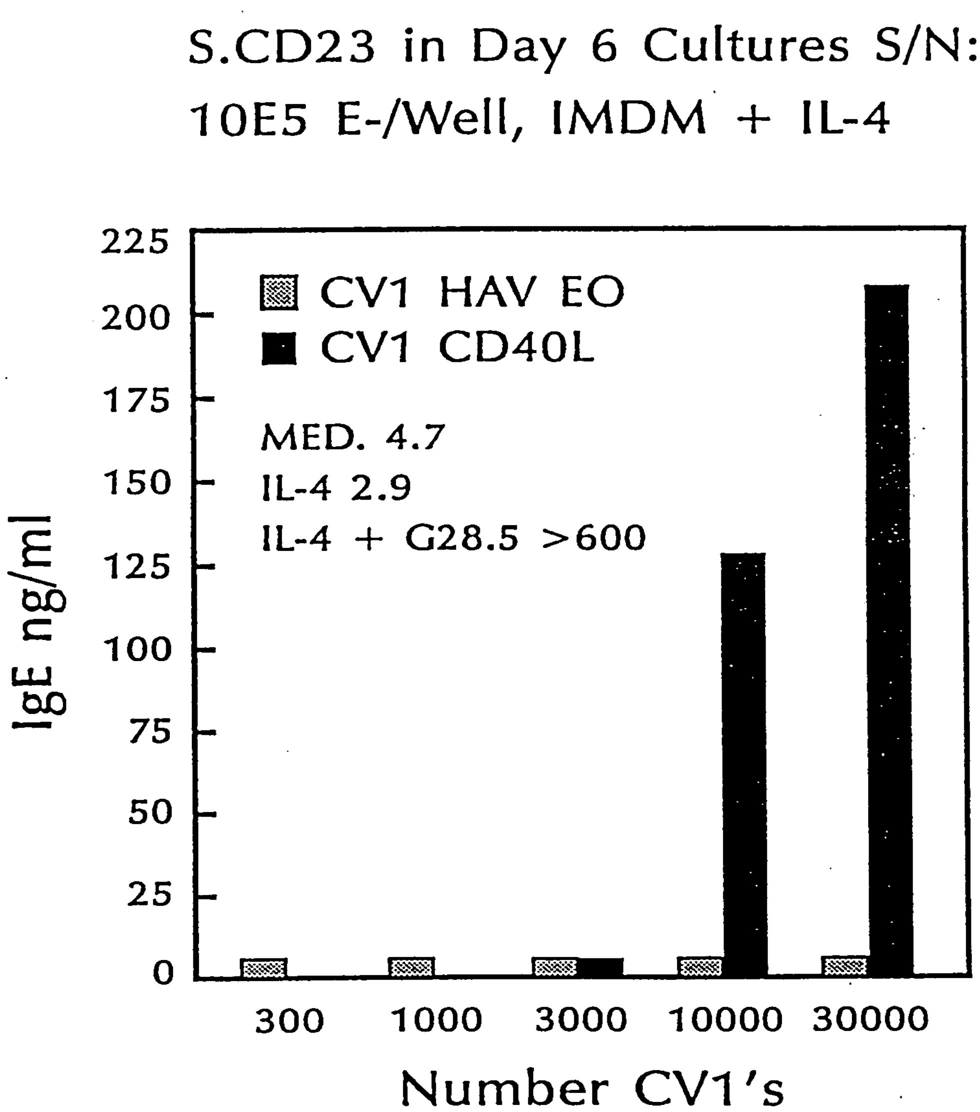


FIG. 6



S.CD23 in Day 6 Cultures S/N:
10E5 E-/Well, IMDM + IL-4
CV1 HAV EO
CV1 CD40L
MED. 4.7
IL-4 2.9
IL-4 + G28.5 >600
IgE ng/ml
225
200
175
150
125
100
75
50
25
0
300
1000
3000
10000
30000
Number CV1's

FIG. 7

S.CD23 in Day 6 Cultures S/N:
10E5 E-/Well, IMDM + IL-4

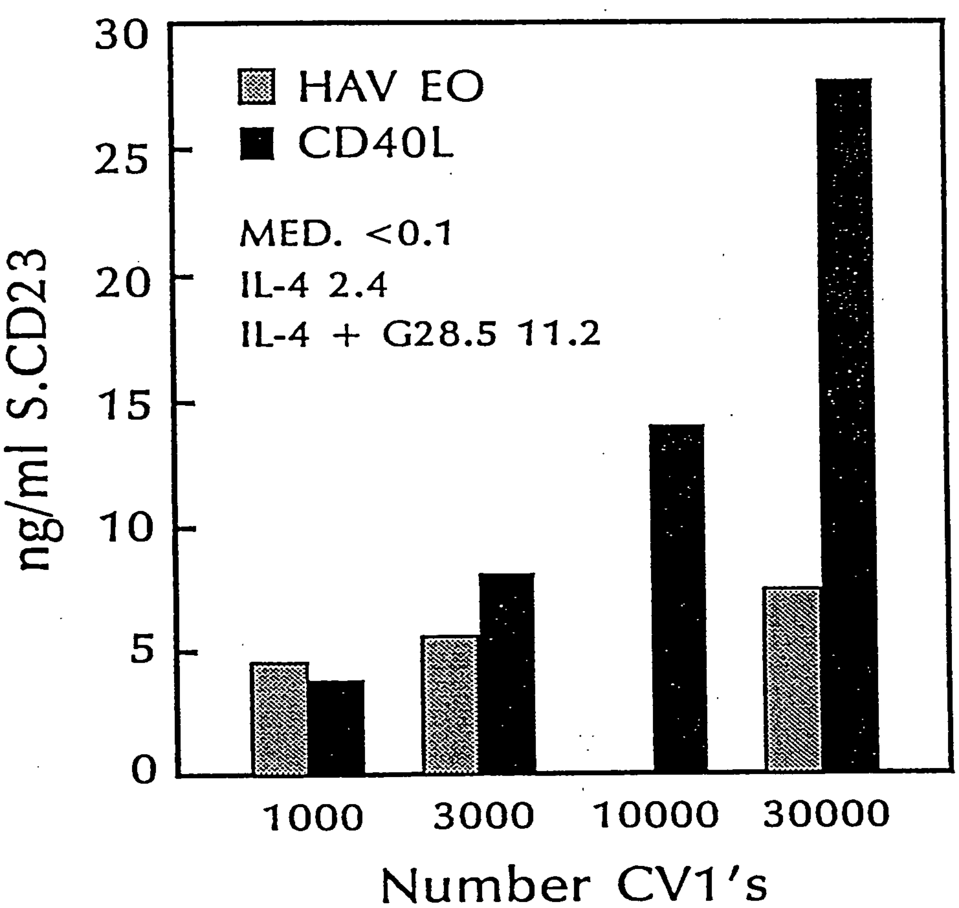


FIG. 8

Induction of B Cell Proliferation by
CD40 Ligand Expressing CV-1 Cells (fixed)

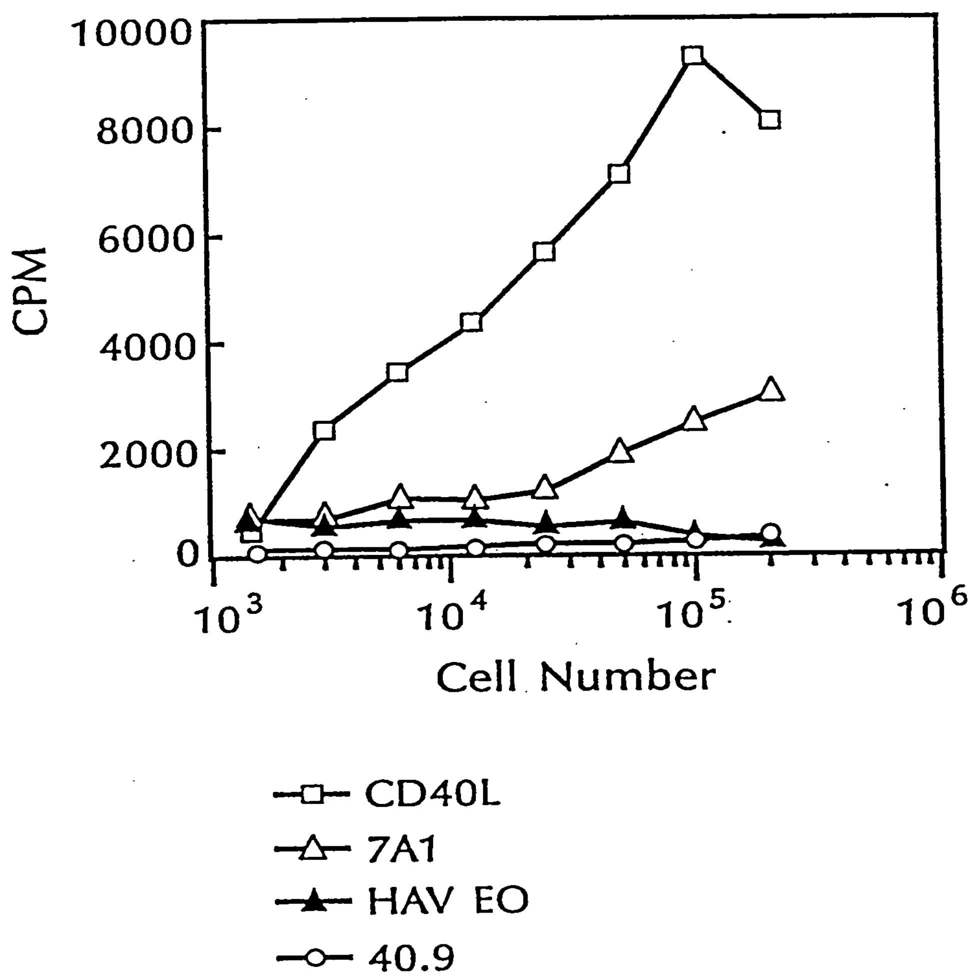


FIG. 9

Induction of Anti-SRBC PFC by EL4 40.9
and 7A1 Th1 Cells (Fixed)

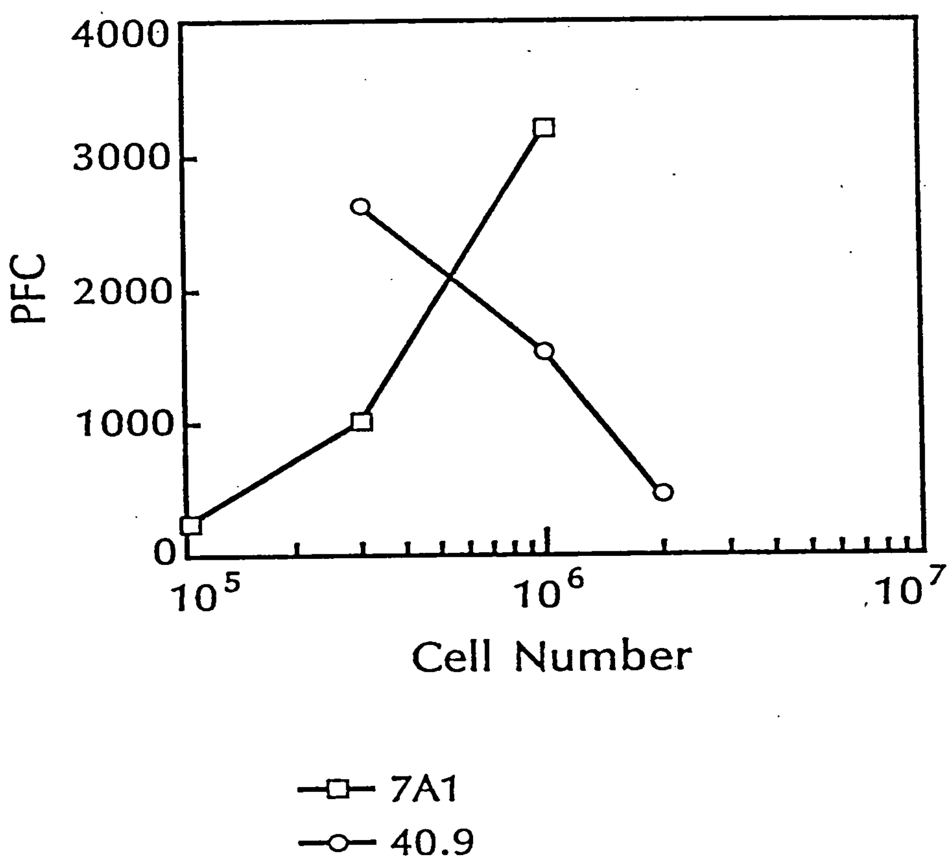
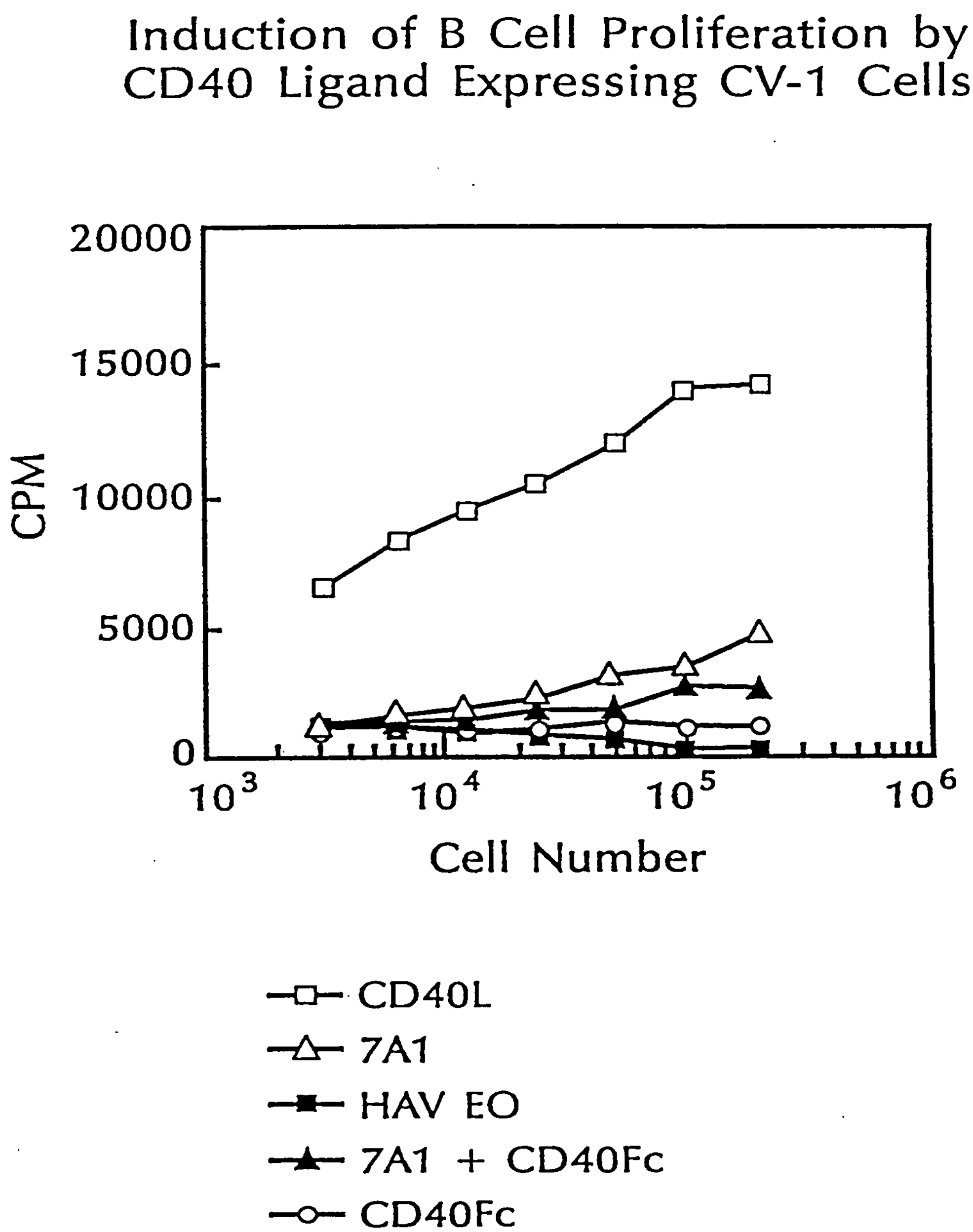
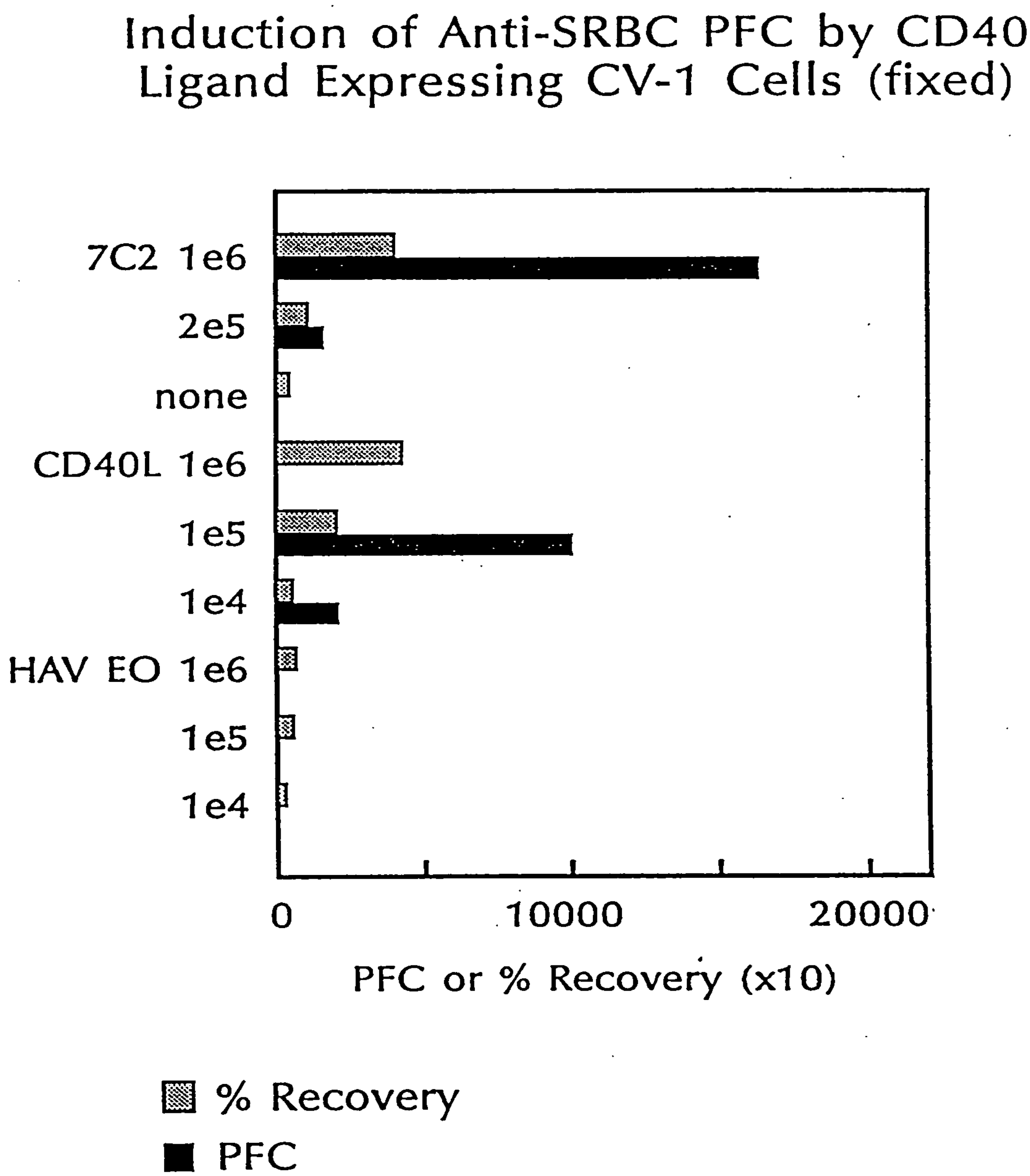


FIG. 10



Induction of B Cell Proliferation by
CD40 Ligand Expressing CV-1 Cells
20000
15000
10000
5000
0
CPM
10^3
10^4
10^5
10^6
Cell Number
CD40L
7A1
HAV EO
7A1 + CD40Fc
CD40Fc

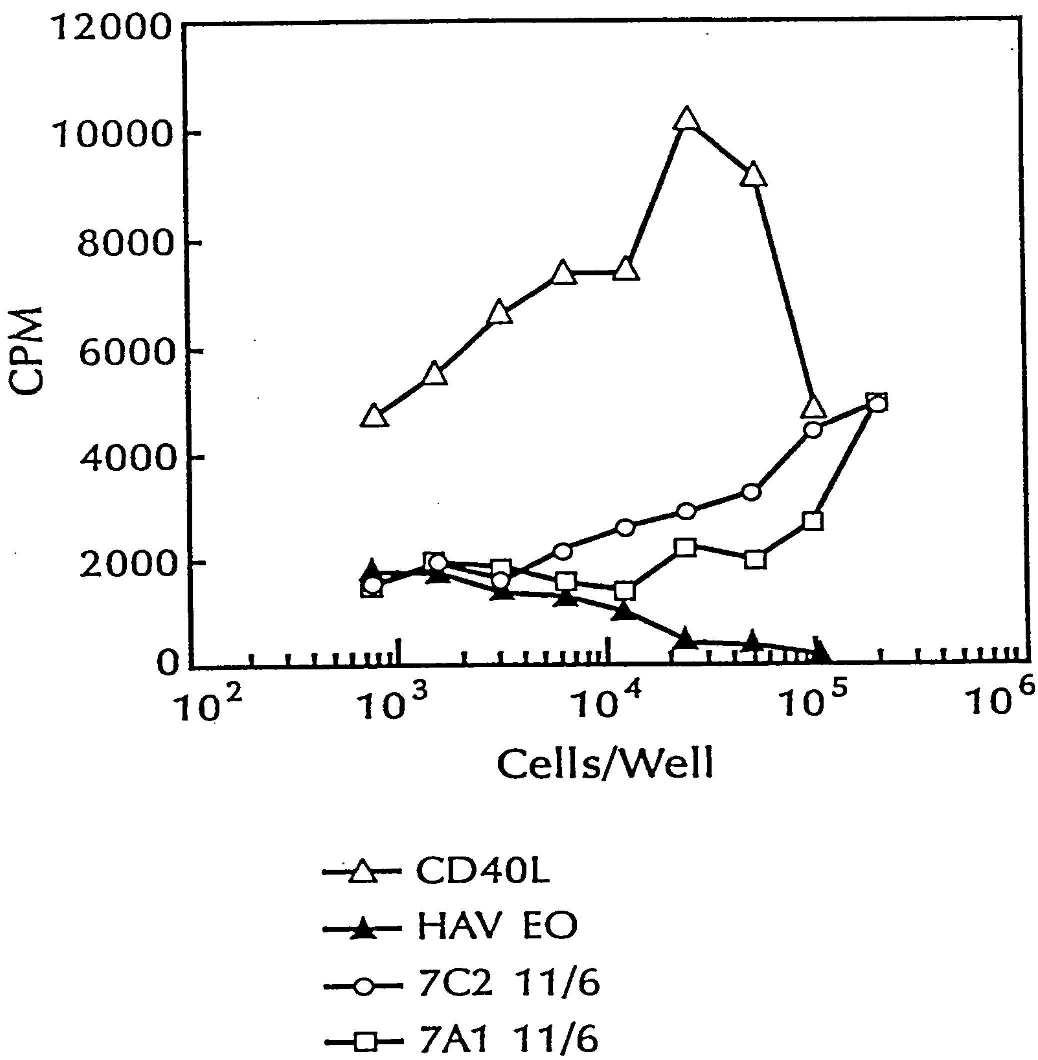
FIG. 11



3194-11

FIG. 12

Induction of Murine B Cell Proliferation by CD40 Ligand Expressing CV-1 Cels (fixed)



INDUCTION OF ANTIGEN SPECIFIC PFC BY
CD40 LIGAND EXPRESSING CV-1 CELLS (FIXED)

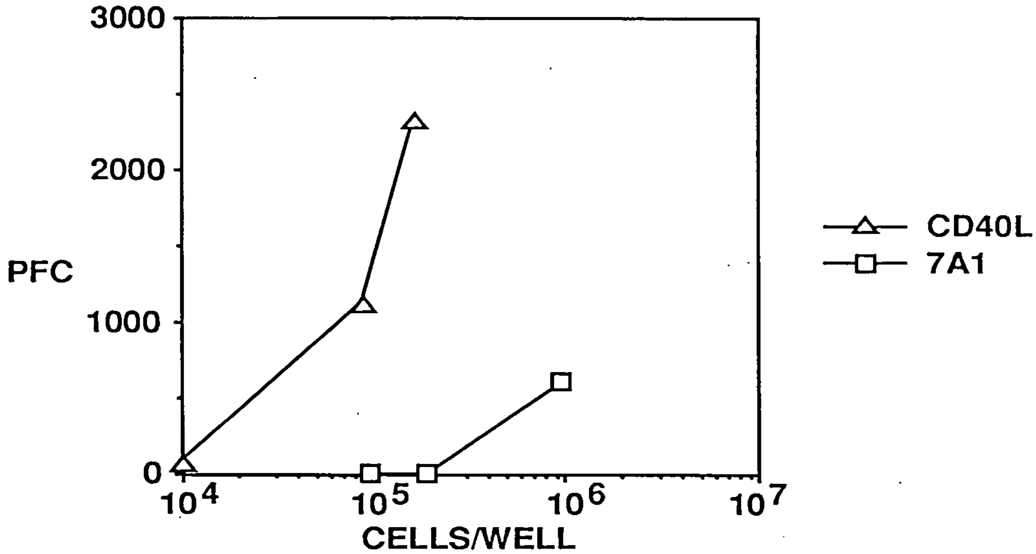


FIG. 13A

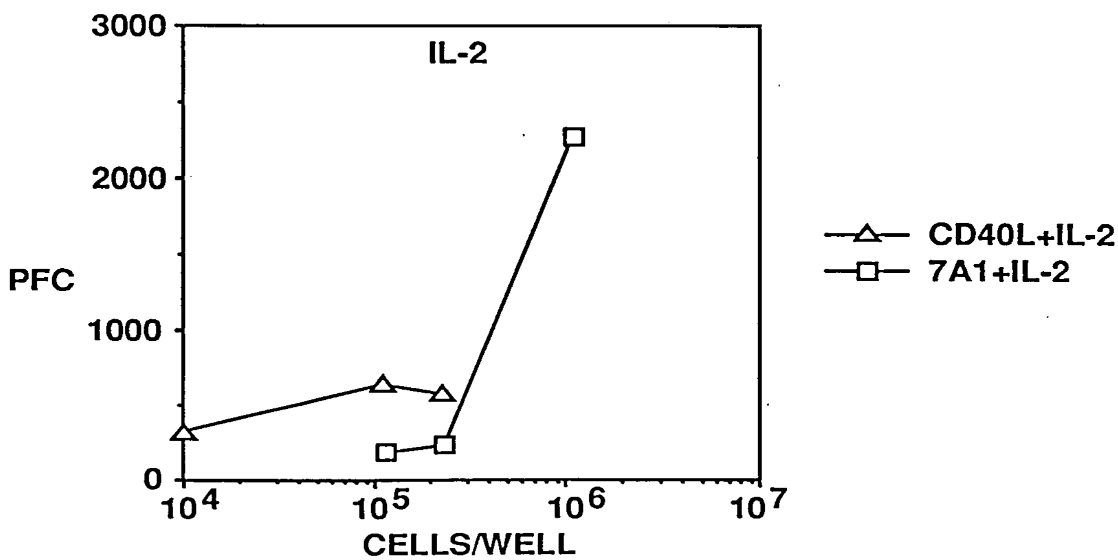


FIG. 13B

FIG. 14A

Day 7 Proliferation of T-depleted PBM

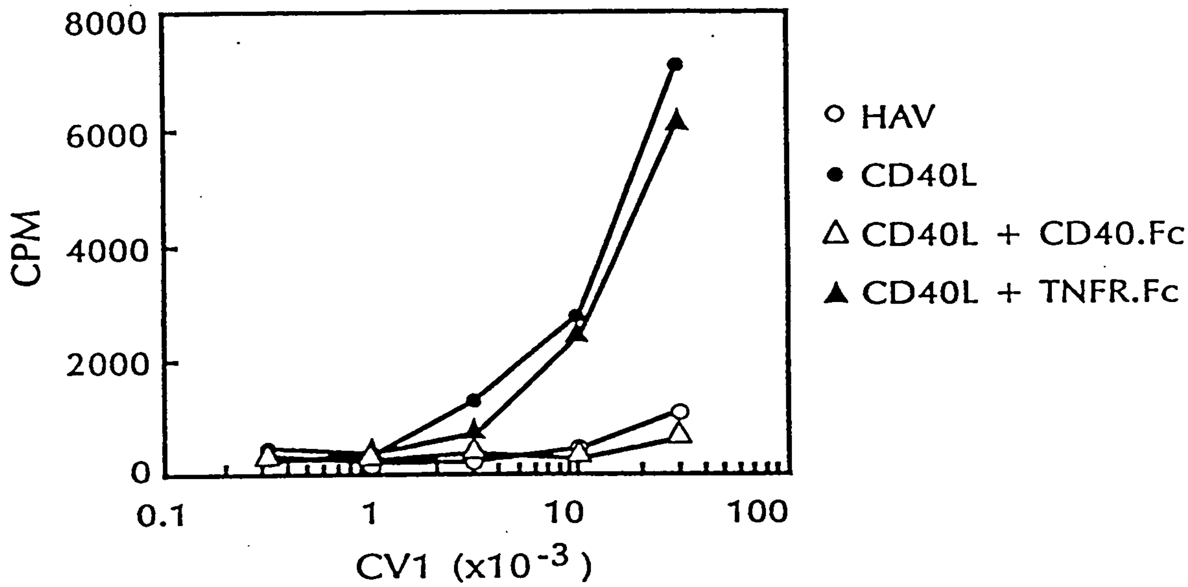


FIG. 14B

Day 10 IgE Secretion from T-depleted PBM

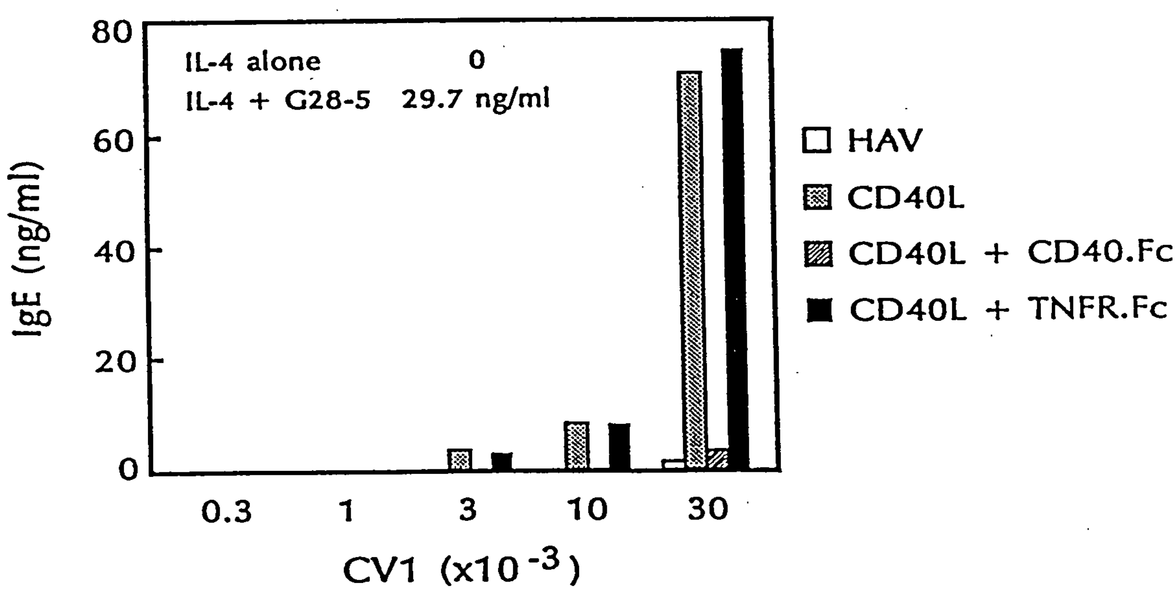


FIG. 15A

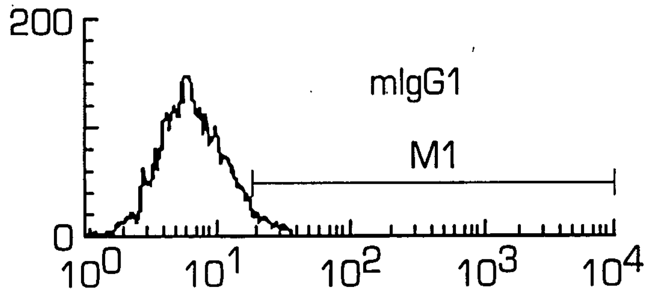


FIG. 15B

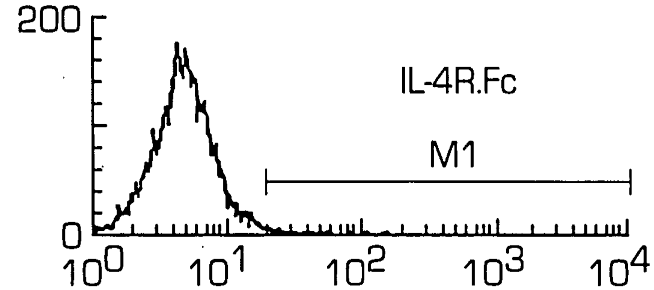


FIG. 15C

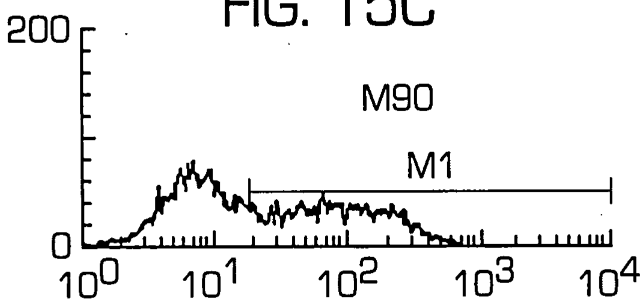
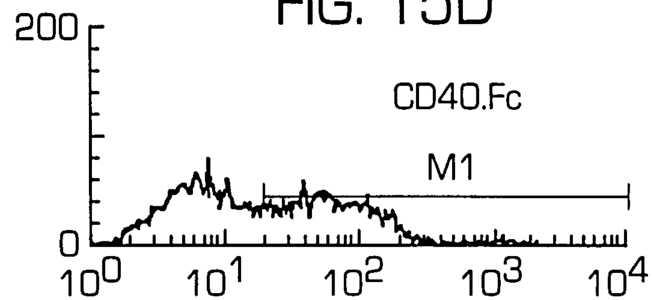


FIG. 15D



BINDING OF CD40.Fc AND ANTI-CD40L ANTIBODY M90
TO ACTIVATED PERIPHERAL BLOOD T CELLS

FIG. 16A

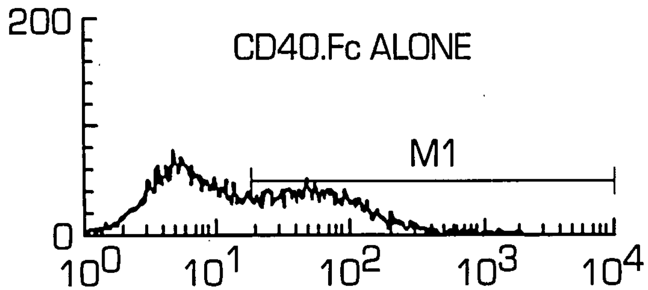


FIG. 16B

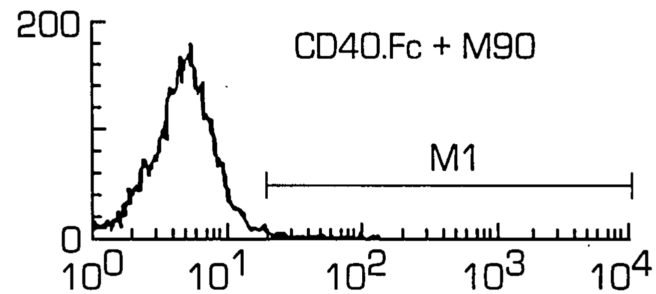


FIG. 16C

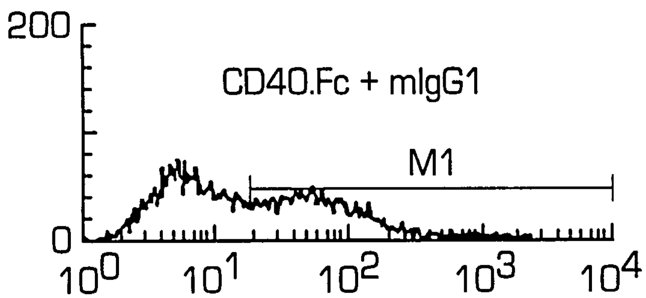
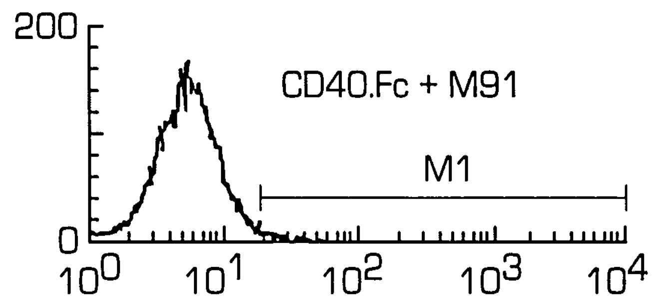


FIG. 16D



INHIBITON OF CD40.Fc BINDING TO ACTIVATED PERIPHERAL BLOOD T CELLS BY ANTI-CD40L ANTIBODIES M90 AND M91

Inhibition of anti-IgM + soluble CD40L-induced B-cell proliferation by anti-hCD40L mAb

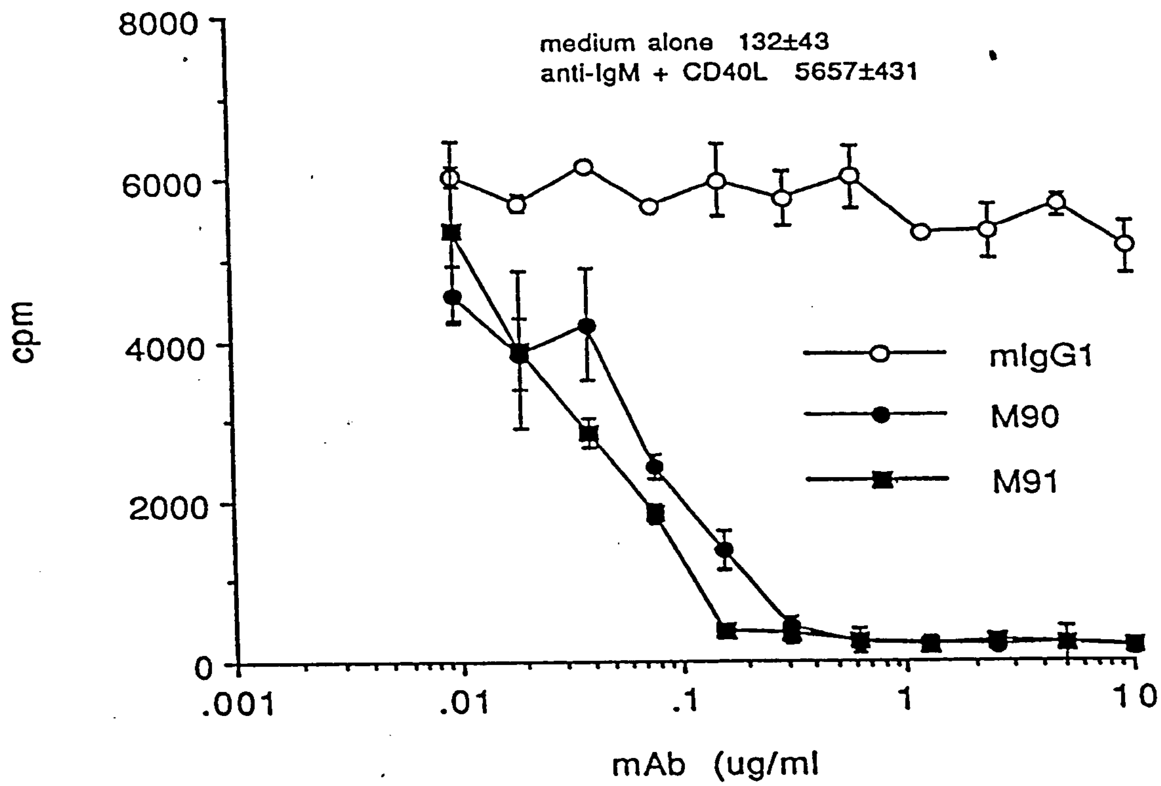


FIG. 17

Binding of human and Murine CD40 LT and CD40 L Fc Dimer to CD40Fc by Biosensor Assay

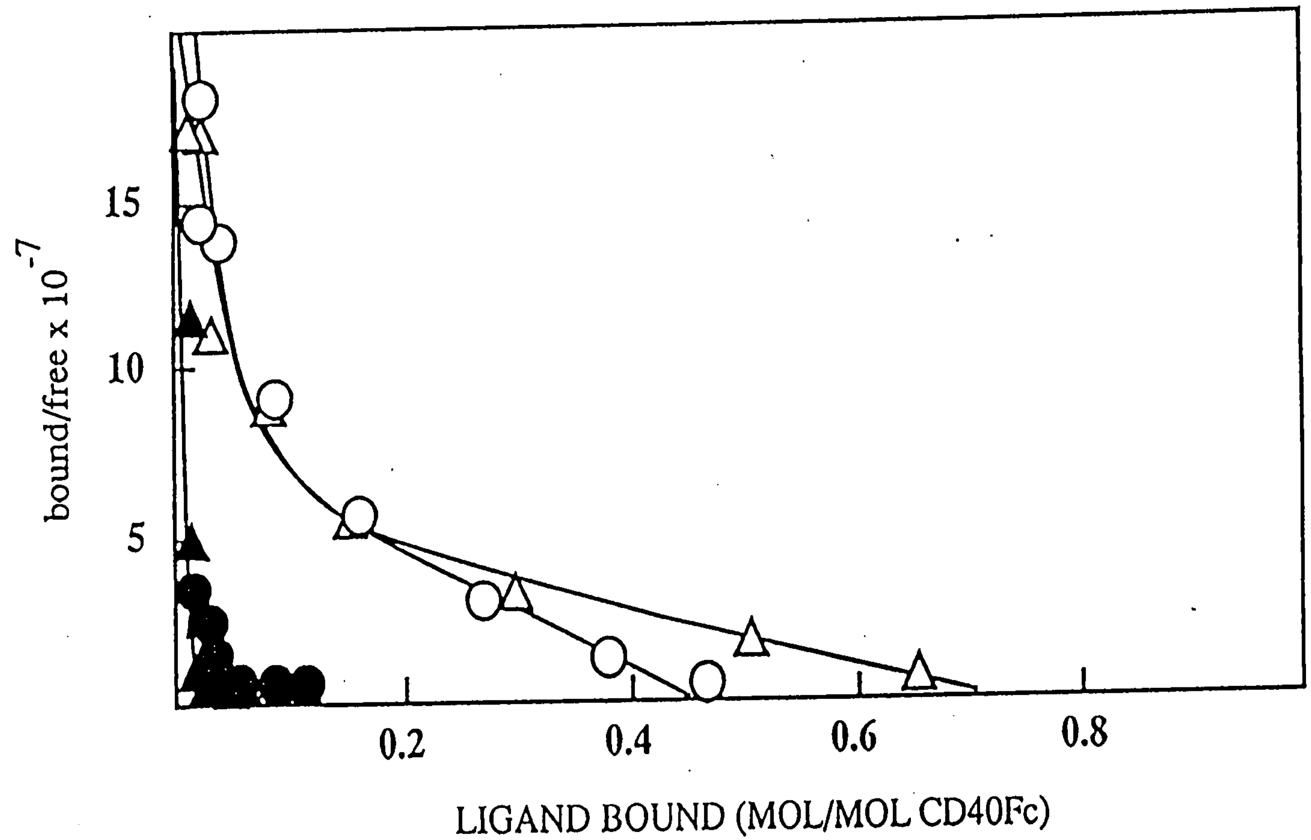


FIG. 18

09322021 .052899

FIG. 19A

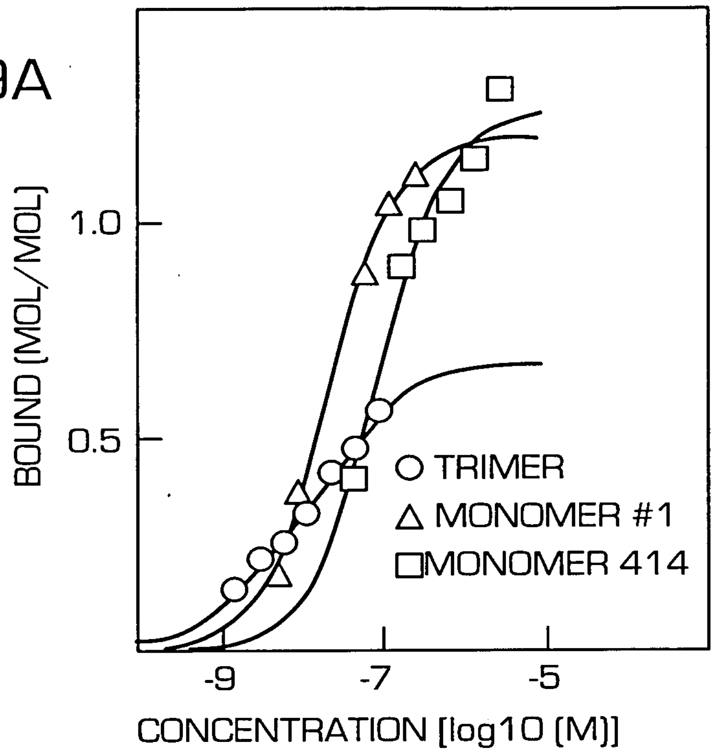
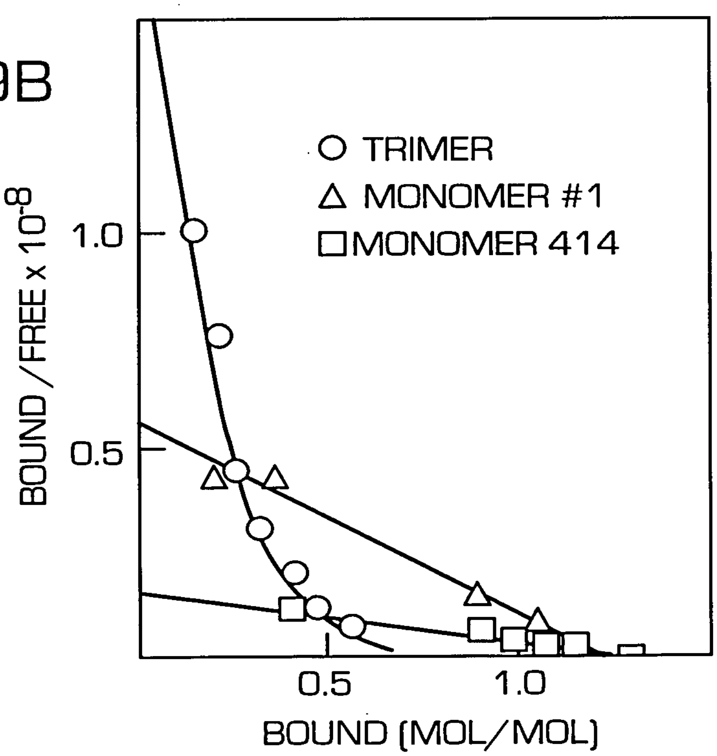


FIG. 19B



BINDING OF CD40 LIGANDS TO CD40Fc USING EQUILIBRIUM BINDING VALUES ESTIMATED FROM A KINETIC ANALYSIS OF THE ASSOCIATION PHASE